

K-12 Physical Education: The Principal perspective

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Abstract: The purpose of this research was to examine how K-12 Principals view physical education. Additionally, this survey-based project examined the extent to which *location* and *level* of a building impacted the Principals attitude or actions. Basic demographic information was captured from each respondent ($N = 130$) and then factorial ANOVA was used to determine significant interactions; again, based on *location* and/or *level*. Preliminary results indicate that Indiana K-12 building Principals, irrespective of *location* or *level* held favorable attitudes toward physical education and that their actions supported those attitudes. In select instances there were significant interactions in regard to *location* and *level* toward physical education. Namely as they related to (a) dodgeball (b) coaching expertise (c) recognition and (d) professional development.

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PERSPECTIVE

Johnson and Short (1998) cite the oft-used aphorism "... *so goes the principal, so goes the school...*" in regard to the impact of educational leadership within K-12 public schools. Praisner (2003) also stated that the single most influential element for K-12 educational policy enforcement or reform is the school building administrator (the Principal). This is further supported by Donham (2008) who emphasizes that not only does the building Principal shape 'school culture' but has the final word in budget decisions.

Research that documents the effect/impact of building Principals on school culture, programming, and staff function, while gaining in popularity, is still relatively undeveloped (Schwieker-Marra, 1995; Singh & Billingsley, 1998). Most recently, the research has focused on learning more about the direct and indirect 'power' of the Principal in the K-12 building environment (Bechtel & O'Sullivan, 2007). Earlier, Edmunds (1979) and Brookover and Lezotte (1977) validated that school leadership directly impacts school climate. More specifically, the leadership as demonstrated by a building principal's beliefs and actions is the largest and

most dominant predictor of 'success' of students in that particular building; and as much, it influences effective teaching, learning, and assessment (McGhee and Lew, 2007). Therefore, the school is directly influenced by the school leader (principal).

With regard to individual content areas, and the special areas in particular, (e.g. music education, art education, and physical education) there is a lack of research. A study conducted by Abril and Gault (2006) looked directly at the building Principal's perspective and impact toward a 'special-content area'; albeit, their work was on music education, not physical education. Using a survey instrument, they found that building Principals, overall, valued music education and could identify a standardized outcome for music education. Moreover, it was found that over 94% of the Principals employed a music specialist in their building. They conclude that it is imperative for a profession to gauge the support of policy makers and building administrators and that knowledge of the above could shape advocacy and future research efforts.

The most recent study focusing on physical education and K-12 educational leadership was completed over a decade ago by Sallis, McKenzie, Kolody, and Curtis (1996). The study examined district-wide administrators (Superintendents) and not building-level administrators (Principals). Results from the survey used suggest that perceptions of K-12 school decision makers / administrators toward physical education are worthy to note and that findings from these surveys ought to be used to improve programming. Again, while insightful toward strategies on improving the perception of physical education from a school-district perspective, it did not focus on the administrative powers within the building; most notably, the Principal.

Faucette and Graham (1986) examined the role of the building Principal regarding physical education delivery and found that physical education teachers were very much impacted by, both, the attitudes and actions of the building Principal. Additionally, Ratliffe (1986) investigated the influence of the building Principal on select teacher, student, and criterion process variables; as part of an intentional observation and feedback intervention system. Findings reinforce the notion that the building Principal has tremendous impact on the quality of physical education delivered in their own particular building as influenced by this clear line of communication. Yet, both used limited sample sizes (less than four Principals were studied in either project) and their respective investigations are nearly a quarter of a century old. Subsequently, these projects occurred prior to the full-fledged standardized testing and scripted curricula notable in K-12 education today.

With this K-12 educational landscape change, which now includes a renewed emphasis on Math and Science, it becomes increasingly evident that the building-level decisions in curricula development are ‘zero-sum’ decisions (Milosovic, 2007). Basically, any increase in time dedicated to one academic pursuit comes at a direct cost for another academic pursuit (Nichols & Berliner, 2008; Willis, 2007). As state-level Departments of Education look for ways to ‘innovate’ public education the practice of de-regulation is becoming more popular. As such, school reform will initiate at the local district level as opposed to the state-wide level (Indiana Department of Education, 2009).

For instance, in Indiana, the Superintendent of Public Instruction has mandated an ‘expansion of the waiver process’ for Physical Education in particular; effective ‘immediately’ (2/09). This waiver expansion coupled with an overall boost to award credit flexibility means high school students can now fulfill the state PE

requirement using alternative routes that normally were left for medical, religious, and military reasons and that this determination is at the local level; which means school building by school building. Therefore, the possibility exists where high school students in Indiana could satisfy the PE requirement and not spend any time attending an in-school physical education course.

Consequently, the K-12 building Principal is a key component to building-level reforms so it is important to note their perceptions of physical education (Evans & Teddie, 1993; Fullan, 2001) especially when you factor in fashionable state-level initiatives or mandates. Additionally, in light of research that suggests K-12 physical education programming, at worst, has no effect on academic achievement (Dwyer, et al, 1983) or, at best, is positively correlated to academic achievement (Carlson et al, 2008; Sallis et al, 1999) and overall positive student development (Calfas & Taylor, 1994) the need to determine the current level of in-building support for physical education becomes more compelling as the allocation of instructional minutes are at stake. The building Principal’s impact on resource allocation and school culture in public K – 12 education is undeniable. Moreover, no contemporary knowledge base exists that can inform K-12 PE-related professionals regarding their standing in the building Principals purview. Therefore, the genesis of this project was to capture the beliefs and actions of building Principal’s toward Physical Education. Therefore, the purpose of this study is threefold. First, assessing how physical education (PE) is perceived and supported by K-12 building Principals in the state of Indiana will contribute to the research arm of IAHPERD (Indiana Association for Health, Physical Education, Recreation, and Dance); the state’s largest professional association for K-12 physical educators. Second, the findings of this project could then be scaled up to address the national perspective for K-12 building Principals toward physical education and this directly contributes to AAHPERD (American Alliance for Health, Physical Education, Recreation, and Dance) and in particular, the affiliated Research Consortium. This will better equip the profession on program design and continued advocacy in the current educational landscape of K-12 education. Thirdly, this research will inform physical education professionals (practitioners and teacher educators) to better work with colleagues in Music and Art in advocating for the ‘specials’ in K-12 education.

In essence, the emergence of scripted curricula and an increasing prominence of standardized testing in K-12 education today coupled with both state-level educational transformations and the lack of current

scholarship on how physical education is perceived by the building Principal shaped the research question *How is K-12 Physical Education perceived and supported by building Principals?* Additionally, the following research questions were addressed:

1. *Are Principal attitudes / beliefs toward physical education impacted by 'level' (Elementary, Middle, and High School) or 'location' of the building (Rural, Suburban, and Urban)?*
2. *Are Principal actions toward physical education impacted by 'level' (Elementary, Middle, and High School) or 'location' of the building (Rural, Suburban, and Urban)?*
3. *What curriculum model do building Principals prefer their PE programs emulate?*

METHODS

There are approximately 296 school corporations with in the 92 counties in the State of Indiana. This study employed a state-wide partially proportioned stratified random sample of K-12 building principals. Publicly accessible resources were used to identify and verify the Principal list and, ultimately, defined our sampling frame.

Data of the Principal and the school were entered into an excel spread sheet (including publicly available assertions to the 'type' of building, etc.). Once loaded, the list was randomized and once randomized, the sample was identified and Principal email addresses procured and surveys electronically distributed.

Instrument

An IRB approved cross-sectional survey was used to acquire Principal perceptions for this project. Given the lack research available with regard to Principal perceptions and Physical Education (and, therefore, the lack of related research instruments) the principal investigator generated a survey. This survey was validated via a previous pilot project; both from a content validity standpoint (5 industry experts reviewed the survey) and from a construct / criterion related standpoint (exploratory factor analysis). The survey was distributed to each building Principal via an embedded link within an introductory email from the principal investigator.

The first section of the survey solicits demographic information of the respondent; particularly, their age, gender, years as an administrator, type of building where they administrate (rural, suburban, urban), level they

administrate (elementary, middle grade, high school), enrollment size of the building they administrate, and, finally, their own exercise habits. The second section focused on the Principals' beliefs toward physical education. The third section highlighted the Principal's actions toward physical education; and the fourth section related to current events and 'hot' topics within K-12 physical education (coaching expectations and dodge ball, for instance). Therefore, sections 2, 3, and 4 account for 21 items in total; within those 21 items two subscales were formed (a) beliefs and (b) actions. Each item in the sections was scored on a 5 - point Likert-type scale; (5 = 'strongly agree' and 1 = 'strongly disagree').

Respondents

Using a publicly available data base of state-wide K-12 building Principals in Indiana, a randomized list of 400 Principals were identified for the study; 200 were Principals at the elementary level, 100 at the middle grades level, and 100 at the high school level. Subsequently, all were sent an introductory email by the principal investigator with an embedded link to the electronic surveys; however, 31 emails were returned as 'undeliverable' so the actual number sent was 369.

The adjusted distribution being, 179 elementary, 97 middle grades, and 93 high school. 130 building Principals responded to the survey within 10 days which represents a 35% return rate, overall, and by level, equaled 27% for Elementary; 42% for Middle Grades; and 43% for High School. Aggregated data indicate that of the Principals responding that 29.5% of them were female with 70.5% male; the average age was slightly over 46 years old, and the average experience as a building Principal just under 6 years. Table 1 on the next page summarizes a more complete demographic analysis of the responding building Principals.

Table 1. Demographic information of responding Principals

Level	Locale	Gender	Age	Building Experience	Experience Overall	Enrollment
		<i>N</i>	<i>M</i> (yrs)	<i>M</i> (yrs)	<i>M</i> (yrs)	<i>M</i> (students)
Elementary N=48	Rural N = 20	F = 8	45.50	5.81	8.13	422.88
		M=12	47.58	8.92	11.50	477.50
	Urban N = 13	F=4	49.50	6.75	8.00	475.25
		M=9	42.78	7.78	10.78	530.22
	Suburban N = 15	F=11	41.73	3.36	3.82	552.18
		M=4	43.50	6.75	8.25	674.50
Middle N=42	Rural N = 16	F=5	50.00	8.60	8.60	584.80
		M=11	47.00	6.36	10.09	361.9
	Urban N = 21	F=4	53.75	6.50	8.50	585.25
		M=17	47.88	6.06	11.24	778.47
	Suburban N = 5	F=3	42.00	3.50	8.50	669.33
		M=2	51.00	4.00	11.00	717
High School N=40	Rural N = 17	F=3	56.67	9.33	16.00	646.33
		M=14	46.29	4.79	9.29	572.29
	Urban N = 13	F=3	48.00	3.67	4.67	1742.00
		M=10	48.70	4.90	7.70	1469.50
	Suburban N = 10	F=0	--	--	--	--
		M=10	51.30	4.90	10.70	1670.00

Data Analysis

Survey results were analyzed within The Statistical Package for the Social Sciences (16.0). Initial descriptive statistics were computed, with cross-tabulations, to determine summaries, correlations and relationships between variables. Factorial Analysis of Variance was used to test the relationships of select demographic variables to each item of the ‘belief’ and ‘action’ subscales; more specifically, as they related to ‘location’ of the Principal and ‘level’ of the Principal. This allowed for a 3 x 3 Factorial ANOVA to be utilized with all interactions being analyzed at the $p = .05$ level.

RESEARCH QUESTIONS

1. Are Principal attitudes / beliefs toward physical education impacted by ‘level’ (Elementary, Middle, High School) or ‘location’ of the building (Rural, Suburban, Urban)?

ANOVA revealed three significant differences with regard to the building Principal and the attitudes/beliefs toward physical education. In particular, it appears that ‘level’ of Principal yielded significant differences of attitude toward physical education being a chance for students to ‘blow off steam’; with elementary and middle grades Principals tending to more fully agree with this statement than did their high school counterparts ($M = 3.93, 4.0$ and 3.18), in that particular order (see Table 2).

Additionally, it appears that ‘level’ of Principal led to significant difference of the construct for ‘PE being taken daily by all students’; with middle grade Principals having more agreement than high school Principals toward that statement ($M = 3.81$ versus 2.83). With regard

Table 2. Principal attitudes / beliefs toward physical education

Statement		df	MS	F	p	η^2
PE is important for student fitness	Location	2	.126	.245	.783	.004
	Level	2	.392	.762	.469	.012
	Location x Level	4	.595	1.159	.332	.037
	Error	121	.514			
PE gives students a chance to “blow off steam”	Location	2	.163	.234	.792	.004
	Level	2	5.278	7.551	.001	.111
	Location x Level	4	1.853	2.651	.036	.081
	Error	121	.699			
PE is important for promoting lifelong fitness	Location	2	.030	.054	.947	.001
	Level	2	.658	1.205	.303	.020
	Location x Level	4	.143	.262	.902	.009
	Error	121	.546			
PE can have a positive effect on student learning in core subjects	Location	2	.196	.367	.693	.006
	Level	2	.454	.849	.430	.014
	Location x Level	4	.462	.865	.487	.028
	Error	121	.534			
PE should focus on preparing student-athletes	Location	2	.779	.949	.390	.015
	Level	2	.293	.358	.700	.006
	Location x Level	4	1.734	2.114	.083	.065
	Error	121	.820			
PE should be taken daily by all students	Location	2	1.908	1.436	.242	.023
	Level	2	5.266	3.962	.022	.061
	Location x Level	4	.846	.637	.637	.021
	Error	121	1.329			
PE intrudes on time needed for the core subjects	Location	2	.737	1.080	.343	.018
	Level	2	1.588	2.327	.102	.037
	Location x Level	4	1.112	1.629	.171	.051
	Error	121	.682			

to ‘PE being important for student fitness, ‘location’ of the building showed that rural Principals held that belief less strongly than their suburban counterparts ($M = 2.56$ versus 3.81).

Finally, it is worthy to note that there was no significant difference, from level or location, regarding (a) PE having a positive effect on student learning ($M = 4.28$; $SD = .729$) or (b) PE intruding on in-school time needed

for ‘core’ subjects ($M = 1.81$; $SD = .93$).

2. Are Principal actions toward physical education impacted by ‘level’ (Elementary, Middle, High School) or ‘location’ of the building (Rural, Suburban, Urban)?

ANOVA revealed three significant differences concerning actions of building Principals toward PE (see Table 3).

Table 3. Principal actions toward physical education

Statement		df	MS	<i>F</i>	<i>p</i>	η^2
I hire PE teachers for their ability to coach	Location	2	.311	.238	.788	.004
	Level	2	4.494	3.439	.035	.054
	Location x Level	4	1.234	.945	.441	.030
	Error	121	1.307			
I encourage PE teachers to attend state or national conferences	Location	2	4.172	3.530	.032	.055
	Level	2	.417	.353	.703	.006
	Location x Level	4	1.487	1.258	.290	.040
	Error	121	1.182			
I financially support PE teachers travel to state or national conferences	Location	2	1.387	1.052	.352	.017
	Level	2	1.374	1.043	.356	.017
	Location x Level	4	2.705	2.052	.091	.064
	Error	120	1.318			
I nominate PE teachers for teacher of the year awards	Location	2	4.649	3.295	.041	.053
	Level	2	.322	.228	.796	.004
	Location x Level	4	1.058	.750	.560	.025
	Error	117	1.411			
I nominate 'special area' teachers for teacher of the year awards	Location	2	2.684	2.082	.129	.034
	Level	2	.520	.403	.669	.007
	Location x Level	4	.529	.411	.801	.014
	Error	117	1.289			
I formally evaluate my PE teachers	Location	2	.203	.435	.648	.007
	Level	2	1.374	2.953	.056	.047
	Location x Level	4	.175	.376	.825	.012
	Error	121	.465			
I formally evaluate all my 'special area' teachers	Location	2	.203	.435	.648	.007
	Level	2	1.374	2.953	.056	.047
	Location x Level	4	.175	.376	.825	.012
	Error	121	.465			
PE teachers have an annual budget comparable to other 'special areas'	Location	2	.016	.016	.984	.000
	Level	2	.027	.026	.974	.000
	Location x Level	4	.264	.253	.907	.008
	Error	119	1.040			

In particular, when considering the construct ‘I hire PE teachers for their ability to coach’, unsurprisingly, there was a significant difference based on ‘level’; with Elementary Principals in less agreement to their Middle grades or High School counterparts ($M = 1.59, 2.49$, and 2.9 , respectively).

Additionally, suburban Principals were more likely to nominate their building PE teachers for teacher of the year awards than their rural counterparts ($M = 3.60$ versus 2.65); and this held true for when considering the statement “I nominate any ‘special’ area teachers for teacher of the year awards” ($M = 3.61$ versus 2.85). There was no significant interaction from a ‘level’ standpoint.

The final significant difference in Principal action, lies in the construct “I encourage PE teachers to attend state or national conferences for professional development”, suburban Principals are more likely to agree with that statement than their urban counterparts ($M = 4.8$ versus 3.57).

In regard to miscellaneous items posed to Principals (see Table 4), there were a few significant interactions. Most notably, however, is in regard to ‘dodgeball’. ANOVA

indicates that rural Principals favorably and significantly viewed dodgeball as an ‘acceptable in-class PE activity’ at higher levels than their urban or suburban counterparts ($M = 3.37, 2.23$, and 2.38 , respectively).

3. What curriculum model do building Principals wish their PE program emulate?

Presented with various curriculum models, Principals were asked to rank which model they hoped their PE program would emulate. The curriculum model options were (a) Sports (team and individual) (b) Lifetime Fitness (c) Adventure Education (teambuilding) (d) Integrative (core subjects as a co-focus) and (e) Games (i.e. recreational, tag).

In aggregate, the responding K-12 Principals rated *Lifetime Fitness* as the curriculum model they most hoped/wanted their building PE program to emulate; with 83.5% of all responding Principals rating this first. With the remaining curriculum choices being fairly equally split. However, it is important to note this is with all Principals, irrespective of building level, being grouped together. When teasing out the Principals by level (Elementary, Middle Grades, and High School),

Table 4. Miscellaneous Principal items toward physical education

Statement		df	MS	<i>F</i>	<i>p</i>	η^2
Dodgeball is an acceptable in-class PE activity	Location	2	14.475	7.982	.001	.117
	Level	2	2.591	1.429	.244	.023
	Location x Level	4	.108	.059	.993	.002
	Error	121	1.813			
PE teachers definitely need to be able to coach	Location	2	1.116	.662	.518	.011
	Level	2	5.637	3.345	.039	.052
	Location x Level	4	1.185	.703	.591	.023
	Error	121	1.685			
Dress should be at least 50% for the students PE grade	Location	2	4.420	3.624	.030	.057
	Level	2	3.944	3.234	.043	.051
	Location x Level	4	.472	.469	.758	.015
	Error	121	1.220			
Attitude should be at least 50% of the students PE grade	Location	2	3.135	2.229	.112	.036
	Level	2	3.802	2.704	.071	.043
	Location x Level	4	3.417	2.430	.051	.074
	Error	121	1.406			

while *Lifetime Fitness* remained as the number one ranked curriculum model the second most sought after curriculum model is particular with the level of the building.

In particular, for Elementary Principals, 83% of the respondents indicated *Lifetime Fitness* as the premier curricular model. Moreover, 38.2% indicated that the second most popular curricular choice for them was the *Integrative Model*; this was a clear majority over the remaining choices. Yet, this is relatively unsurprising given the climate of the enhanced focused on Reading and Mathematical at the Elementary level. Yet, it is very informing of what teacher educators should be focusing on during the pre-service teacher training years.

For Middle Grade Principals, again, *Lifetime Fitness* was the most appealing curriculum model (with 87% rating it first). Consequently, 41% of the Principals rated *Adventure Education* as their second most appealing curricular theme (again, exceeding the remaining choices). While somewhat surprising, this does confirm the fact that team building and problem solving appear to be favored dispositional skills by Middle Grade Principals.

Finally, for High School Principals 82% of respondents indicated *Lifetime Fitness* as the preferred curricular offering and 32% of building Principals indicated *Sports* as the next most important curricular offering. And given the popularity of intramural and extramural scholastic sports at the secondary level, this is a rather predictable finding.

RESULTS

From the findings it appears that 'location' and 'level' do influence select aspects of Principal attitudes and actions toward physical education. Yet, overall, there does not appear to be significant difference among K-12 Principals (in Indiana) as they relate to attitudes and actions toward physical education. This is important to note as currently in Indiana K-12 education funding is being reduced, which leads to cuts in programs and staff. Typically, the first programs and staff to go are "specials" which would include Physical Education. With this research physical educators should understand there is general support from building Principals toward physical education. Evidence lies in the fact there was no significant difference in Principal attitude regarding the construct that *PE can have a positive impact on learning in core subjects* where the mean score of all Principals was 4.28/5.00 with similar disagreeing consensus that *PE does intrude on time for core subjects* ($M = 1.81 / 5.00$). All we need to do is advocate for ourselves to ensure

the teacher training programs are preparing pre-service physical educators to meet the needs and expectations of building Principals and that in-service teachers are delivering relevant programming. So, it appears from this preliminary study that, overall, building Principals hold favorable opinions of physical education and, generally, their actions support this belief.

Moreover, given their druthers K-12 Principals hope that their physical education programs have a clear and intentional lifetime fitness theme to them. Yet, when it comes to the secondary curricular, the determinant is the level of the building. With the Elementary building favoring integrated learning, the Middle Grades focusing on collaborative aspects (team building) with problem-solving, and the high school with a more intramural / extramural competitive focus.

SCHOLARLY SIGNIFICANCE

As cited in the opening paragraph, "...so goes the principal, so goes the school..." is an important axiom to understand and follow. With that, the attitudes and actions of and by the building Principal toward all content areas are worthy to acknowledge. For the teachers and teacher educators of that particular content area this can inform their professional development, assessment / evaluation, and advocacy efforts. In this sense, this project contributes to the basic knowledge of K-12 physical education. Particularly, teacher education programs can ensure their curriculum matches the industry expectations of what building Principals hope is accomplished in a physical education program; namely, that pre-service physical education teachers have an expertise in delivering lifetime fitness as a curriculum model. Additionally, in-service teachers can strive toward engaging in professional development opportunities to ensure their current skill set is relevant and matches to the expectations of the building administrator.

Finally, the results of this project may inform in-service building administrators on the impact of their attitude and actions toward a content area. This would contribute to an increased awareness of that particular content area and any (unintentional) consequences from the building Principal toward that content area. It would be worthwhile to expand this project to regional and then national samples.

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